<110> Ni et al.

<120> Human Serpin Polynucleotides, Polypeptides, and Antibodies

<130> PT001P2

<140> Unassigned
<141> 2001-07-26

<150> PCT/US01/02484
<151> 2001-01-26

<150> 60/178,769
<151> 2000-01-28

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<151> 2000-02-29

<160> 17

<170> PatentIn Ver. 2.0

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tctcccggac tcctgaggtc acatgcgtgg tggtggacgt aagccacgaa gaccctgagg     180
tcaagttcaa ctggtacgtg gacggcgtgg aggtgcataa tgccaagaca aagccgcggg     240
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ccacgcctcc cgtgctggac tccgacggct ccttcttcct ctacagcaag ctcaccgtgg     600
acaagagcag gtggcagcag gggaacgtct tctcatgctc cgtgatgcat gaggctctgc     660
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aatctactgt gtgtccccgg ccaatgcccc cagtgcatac ccccgcccct cctccacaaa     180
gagcacccct gcctcacagg tgtattccct caacaccgac tttgccttcc gcctataccg     240
caggctggtt ttggagaccc cgagtcagaa catcttcttc tccctgtga gtgtctccac     300
ttccctggcc atgctctccc ttggggccca ctcagtcacc aagacccaga ttctccaggg     360
cctgggcttc aacctcacac acacaccaga gtctgccatc caccagggct tccagcacct     420
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agcagaagtc ttttctacag atttctccaa cccctccatt gcccaggcga ggatcaacag        600
ccatgtgaaa aagaagaccc aagggaaggt tgtagacata atccaaggcc ttgaccttct        660
gacggccatg gttctggtga accacatttt ctttaaagcc aagtgggaga agcccttca         720
ccctgaatat acaagaaaga acttcccatt cctggtgggc gagcaggtca ctgtgcatgt        780
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actccagaaa aggtggatag aggtgttcat cccagattt tccatttctg cctcctacaa       1020
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ttctggaatt gcaaagagag actccctgca ggtttctaaa gcaacccaca aggctgtgct       1140
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tacaaataaa gccacagacg gtattctctt tctagggaaa gtggaaaatc ccactaaatc       1320
ctaggtggga aatggcctgt taactgatgg cacattgcta atgcacaaga aataacaaac       1380
cacatccctc tttctgttct gagggtgcat ttgacccag tggagctgga ttcgctggca       1440
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gtcaaagaga cttcttcaa tttatccaag aggtattttg atacagagtg ctgacctatg        180
aattttcgca atgcctcaca ggcaaaagg ctcatgaatc attacattaa caaagagact        240
cgggggaaaa ttcccaaact gtttgatgag attaatcctg aaaccaaatt aattcttgtg        300
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tgctgtagta gatgctgaat ctgaggtatc aaacacacac aggataccag caatggatgg       1020
caggggagag tgttcctttt gttcttaact agtttagggt gttctcaaat aaatacagta       1080
gtccccactt atctgagggg gatacattca aagaccccca gcagatgcct gaaacggtgg       1140
acagtgctga accttatata tattttttcc tacacataca tacctatgat aaagtttaat       1200
ttataaatta ggcacagtaa gagattaaca ataataacaa cattaagtaa aatgagttac       1260
ttgaacgcaa gcactgcaat accataacag tcaaactgat tatagagaag gctactaagt       1320
gactcatggg cgagggagcat agacagtgtg gagacattgg gcaagggggag aattcacatc       1380
ctgggtggga cagagcagga caatgcaaga ttccatccca ctactcagaa tggcatgctg       1440
cttaagactt ttagattgtt tatttctgga atttttcatt taatgtttttt ggaccaggat       1500
tgaccatggt taactgagac tgcagaaagc aaaaccatgg ataagggagg actactacaa       1560
aagcattaaa ttgatacata tttttttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa       1620
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<212> DNA
<213> Homo sapiens

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<222> (635)
<223> n equals a,t,g, or c

<220>
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tcaaacaact tatttttttc cccatgagca tatcatcagc cttggccatg gttttcatgg         180
gggcaaaggg aaacactgca gctcagatgt ctcaggcact ttgttttagt aaaatcggag         240
gtgaagatgg agatattcat cgaggtttc agtcacttct tgttgcaatt aacagaactg         300
acactgaata tgtgcttaga actgccaacg ggctctttgg agaaaagtct tatgatttcc         360
tcacaggttt tacagattcc tgtggcaaat tctaccaagc aacgataaaa cagctagact         420
ttgtgaatga tacagagaag tccacaacac gtgtaaactc ctgggttgct gataaaacta         480
aagcctggaa aattattcaa acaagcctgt cacatctgga ggagccagga atcgcctctt         540
cctcttgtta ctgcaaagcc tgcctttcac agccctact ggttcactct attcccaaat         600
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ctaataaact gccgccaatt tcatctgtaa aaaaaaaaaa aaaaaa                        706

<210> 5
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<212> PRT
<213> Homo sapiens

<400> 5
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Ser Lys Met Ala Ser Tyr Leu Tyr Gly Val Leu Phe Ala Val Gly Leu
                20                  25                  30

Cys Ala Pro Ile Tyr Cys Val Ser Pro Ala Asn Ala Pro Ser Ala Tyr
            35                  40                  45

Pro Arg Pro Ser Ser Thr Lys Ser Thr Pro Ala Ser Gln Val Tyr Ser
        50                  55                  60

Leu Asn Thr Asp Phe Ala Phe Arg Leu Tyr Arg Arg Leu Val Leu Glu
 65                  70                  75                  80

Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val Ser Thr Ser
                85                  90                  95

Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr Lys Thr Gln Ile
            100                 105                 110
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Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr Pro Glu Ser Ala Ile
        115                 120                 125

His Gln Gly Phe Gln His Leu Val His Ser Leu Thr Val Pro Ser Lys
    130                 135                 140

Asp Leu Thr Leu Lys Met Gly Ser Ala Leu Phe Val Lys Lys Glu Leu
145                 150                 155                 160

Gln Leu Gln Ala Asn Phe Leu Gly Asn Val Lys Arg Leu Tyr Glu Ala
            165                 170                 175

Glu Val Phe Ser Thr Asp Phe Ser Asn Pro Ser Ile Ala Gln Ala Arg
        180                 185                 190

Ile Asn Ser His Val Lys Lys Lys Thr Gln Gly Lys Val Val Asp Ile
    195                 200                 205

Ile Gln Gly Leu Asp Leu Leu Thr Ala Met Val Leu Val Asn His Ile
    210                 215                 220

Phe Phe Lys Ala Lys Trp Glu Lys Pro Phe His Pro Glu Tyr Thr Arg
225                 230                 235                 240

Lys Asn Phe Pro Phe Leu Val Gly Glu Gln Val Thr Val His Val Pro
            245                 250                 255

Met Met His Gln Lys Glu Gln Phe Ala Phe Gly Val Asp Thr Glu Leu
        260                 265                 270

Asn Cys Phe Val Leu Gln Met Asp Tyr Lys Gly Asp Ala Val Ala Phe
    275                 280                 285

Phe Val Leu Pro Ser Lys Gly Lys Met Arg Gln Leu Glu Gln Ala Leu
    290                 295                 300

Ser Ala Arg Thr Leu Arg Lys Trp Ser His Ser Leu Gln Lys Arg Trp
305                 310                 315                 320

Ile Glu Val Phe Ile Pro Arg Phe Ser Ile Ser Ala Ser Tyr Asn Leu
                325                 330                 335

Glu Thr Ile Leu Pro Lys Met Gly Ile Gln Asn Val Phe Asp Lys Asn
        340                 345                 350

Ala Asp Phe Ser Gly Ile Ala Lys Arg Asp Ser Leu Gln Val Ser Lys
        355                 360                 365

Ala Thr His Lys Ala Val Leu Asp Val Ser Glu Glu Gly Thr Glu Ala
    370                 375                 380

Thr Ala Ala Thr Thr Thr Lys Phe Ile Val Arg Ser Lys Asp Gly Pro
385                 390                 395                 400

Ser Tyr Phe Thr Val Ser Phe Asn Arg Thr Phe Leu Met Met Ile Thr
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Asn Lys Ala Thr Asp Gly Ile Leu Phe Leu Gly Lys Val Glu Asn Pro
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Thr Lys Ser
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<210> 6
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<212> PRT
<213> Homo sapiens

<400> 6
Glu Pro Thr Lys Pro Gly Leu Leu Pro Ser Leu Phe Lys Gly Leu Arg
 1               5                  10                  15

Glu Thr Leu Ser Arg Asn Leu Glu Leu Gly Leu Thr Gln Gly Ser Phe
            20                  25                  30

Ala Phe Ile His Lys Asp Phe Asp Val Lys Glu Thr Phe Phe Asn Leu
            35                  40                  45

Ser Lys Arg Tyr Phe Asp Thr Glu Cys Val Pro Met Asn Phe Arg Asn
        50                  55                  60

Ala Ser Gln Ala Lys Arg Leu Met Asn His Tyr Ile Asn Lys Glu Thr
 65                  70                  75                  80

Arg Gly Lys Ile Pro Lys Leu Phe Asp Glu Ile Asn Pro Glu Thr Lys
                85                  90                  95

Leu Ile Leu Val Asp Tyr Ile Leu Phe Lys Gly Lys Trp Leu Thr Pro
            100                 105                 110

Phe Asp Pro Val Phe Thr Glu Val Asp Thr Phe His Leu Asp Lys Tyr
        115                 120                 125

Lys Thr Ile Lys Val Pro Met Met Tyr Ser Ala Gly Lys Phe Ala Ser
        130                 135                 140

Thr Phe Asp Lys Asn Phe Arg Cys His Val Leu Lys Leu Pro Tyr Gln
145                 150                 155                 160

Gly Asn Ala Thr Met Leu Val Val Leu Met Glu Lys Met Gly Asp His
                165                 170                 175

Leu Ala Leu Glu Asp Tyr Leu Thr Thr Asp Leu Val Glu Thr Trp Leu
            180                 185                 190

Arg Asn Met Lys Thr Arg Asn Met Glu Val Phe Phe Pro Lys Phe Lys
            195                 200                 205

Leu Asp Gln Lys Tyr Glu Met His Glu Leu Leu Arg Gln Met Gly Ile
        210                 215                 220

Arg Arg Ile Phe Ser Pro Phe Ala Asp Leu Ser Glu Leu Ser Ala Thr
225                 230                 235                 240
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Gly Arg Asn Leu Gln Val Ser Arg Val Leu Gln Arg Thr Val Ile Glu
                    245   250   255

Val Asp Glu Arg Gly Thr Glu Ala Val Ala Gly Ile Leu Ser Glu Ile
                260   265   270

Thr Ala Tyr Ser Met Pro Pro Val Ile Lys Val Asp Arg Pro Phe His
            275   280   285

Phe Met Ile Tyr Glu Glu Thr Ser Gly Met Leu Leu Phe Leu Gly Arg
        290   295   300

Val Val Asn Pro Thr Leu Leu
305   310

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<212> PRT
<213> Homo sapiens

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<223> Xaa equals any of the naturally occurring L-amino acids

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His Glu Leu Arg Ser Trp Ala Ala Ala Arg Arg Thr Gly Ala His Arg
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His Gly Cys Ser Ile Arg Ser Lys Trp His Ile Cys Ile Lys Pro Phe
                20   25   30

Glu Lys Ala Arg Gly Lys Gln Leu Lys Gln Leu Ile Phe Phe Pro Met
            35   40   45

Ser Ile Ser Ser Ala Leu Ala Met Val Phe Met Gly Ala Lys Gly Asn
        50   55   60

Thr Ala Ala Gln Met Ser Gln Ala Leu Cys Phe Ser Lys Ile Gly Gly
65   70   75   80

Glu Asp Gly Asp Ile His Arg Gly Phe Gln Ser Leu Leu Val Ala Ile
                85   90   95

Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn Gly Leu Phe
            100   105   110

Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp Ser Cys Gly
        115   120   125

Lys Phe Tyr Gln Ala Thr Ile Lys Gln Leu Asp Phe Val Asn Asp Thr
        130   135   140

Glu Lys Ser Thr Thr Arg Val Asn Ser Trp Val Ala Asp Lys Thr Lys
145   150   155   160

Ala Trp Lys Ile Ile Gln Thr Ser Leu Ser His Leu Glu Glu Pro Gly

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                    165                    170                    175
     Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser Gln Pro Leu
                 180                185                190

     Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr Pro His Gly
             195                200                205

     Met Trp Xaa Pro Pro Ser Leu
         210                215
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<210> 8
<211> 201
<212> PRT
<213> Homo sapiens

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<221> SITE
<222> (32)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
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<223> Xaa equals any of the naturally occurring L-amino acids

<220>
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<222> (197)
<223> Xaa equals any of the naturally occurring L-amino acids

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Lys Lys Leu Gly Glu Asn Asn Ser Asn Asn Leu Phe Phe Ser Pro Xaa
                20                25                30

Xaa Met Ser Ile Ser Ser Ala Leu Ala Met Val Phe Met Gly Ala Lys
             35                40                45

Gly Asn Thr Ala Ala Gln Met Ser Gln Ala Leu Cys Phe Ser Lys Ile
         50                55                60

Gly Gly Glu Asp Gly Asp Ile His Arg Gly Phe Gln Ser Leu Leu Val
 65                70                75                80

Ala Ile Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn Gly
                 85                90                95

Leu Phe Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp Ser
                100                105                110

Cys Gly Lys Phe Tyr Gln Ala Thr Ile Lys Gln Leu Asp Phe Val Asn
         115                120                125

Asp Thr Glu Lys Ser Thr Thr Arg Val Asn Ser Trp Val Ala Asp Lys
```

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     130                    135                    140
Thr Lys Ala Trp Lys Ile Ile Gln Thr Ser Leu Ser His Leu Glu Glu
145                    150                    155                    160

Pro Gly Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser Gln
                   165                    170                    175

Pro Leu Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr Pro
               180                    185                    190

His Gly Met Trp Xaa Pro Pro Ser Leu
           195                    200
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<210> 9
<211> 41
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (32)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (33)
<223> Xaa equals any of the naturally occurring L-amino acids

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<400> 9
Met Asp Ala Leu Ser Glu Ala Asn Gly Thr Phe Ala Leu Asn Leu Leu
  1               5                   10                  15

Lys Lys Leu Gly Glu Asn Asn Ser Asn Asn Leu Phe Phe Ser Pro Xaa
               20                  25                  30

Xaa Met Ser Ile Ser Ser Ala Leu Ala
           35                  40
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<210> 10
<211> 39
<212> PRT
<213> Homo sapiens

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<400> 10
Met Val Phe Met Gly Ala Lys Gly Asn Thr Ala Ala Gln Met Ser Gln
  1               5                   10                  15

Ala Leu Cys Phe Ser Lys Ile Gly Gly Glu Asp Gly Asp Ile His Arg
               20                  25                  30

Gly Phe Gln Ser Leu Leu Val
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<210> 11

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<211> 42
<212> PRT
<213> Homo sapiens

<400> 11
Ala Ile Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn Gly
  1               5                   10                  15

Leu Phe Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp Ser
            20                  25                  30

Cys Gly Lys Phe Tyr Gln Ala Thr Ile Lys
        35                  40


<210> 12
<211> 38
<212> PRT
<213> Homo sapiens

<400> 12
Gln Leu Asp Phe Val Asn Asp Thr Glu Lys Ser Thr Thr Arg Val Asn
  1               5                   10                  15

Ser Trp Val Ala Asp Lys Thr Lys Ala Trp Lys Ile Ile Gln Thr Ser
            20                  25                  30

Leu Ser His Leu Glu Glu
        35


<210> 13
<211> 41
<212> PRT
<213> Homo sapiens

<220>
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<222> (37)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 13
Pro Gly Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser Gln
  1               5                   10                  15

Pro Leu Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr Pro
            20                  25                  30

His Gly Met Trp Xaa Pro Pro Ser Leu
        35                  40


<210> 14
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<220>
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<222> (585)
<223> n equals a,t,g, or c

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gttttcatgg gggcaaaggg aaacactgca gctcagatgt ctcaggcact ttgttttagt       180
aaaatcggag gtgaagatgg agatattcat cgaggttttc agtcacttct tgttgcaatt       240
aacagaactg acactgaata tgtgcttaga actgccaacg ggctctttgg agaaaagtct       300
tatgatttcc tcacaggttt tacagattcc tgtggcaaat tctaccaagc aacgataaaa       360
cagctagact ttgtgaatga tacagagagg tccacaacac gtgtaaactc ctgggttgct       420
gataaaacta aagcctggaa aattattcaa acaagcctgt cacatctgga ggagccagga       480
atcgcctctt cctcttgtta ctgcaaagcc tgcctttcac agcccctact ggttcactct       540
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<212> PRT
<213> Homo sapiens

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<223> Xaa equals any of the naturally occurring L-amino acids

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 1               5                   10                  15

Lys Lys Leu Gly Glu Asn Asn Ser Asn Asn Leu Phe Phe Ser Pro Met
                20                  25                  30

Ser Ile Ser Ser Ala Leu Ala Met Val Phe Met Gly Ala Lys Gly Asn
            35                  40                  45

Thr Ala Ala Gln Met Ser Gln Ala Leu Cys Phe Ser Lys Ile Gly Gly
        50                  55                  60

Glu Asp Gly Asp Ile His Arg Gly Phe Gln Ser Leu Leu Val Ala Ile
65                  70                  75                  80

Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn Gly Leu Phe
                85                  90                  95

Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp Ser Cys Gly
            100                 105                 110

Lys Phe Tyr Gln Ala Thr Ile Lys Gln Leu Asp Phe Val Asn Asp Thr
        115                 120                 125

Glu Lys Ser Thr Thr Arg Val Asn Ser Trp Val Ala Asp Lys Thr Lys
        130                 135                 140

Ala Trp Lys Ile Ile Gln Thr Ser Leu Ser His Leu Glu Glu Pro Gly
145                 150                 155                 160
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Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser Gln Pro Leu
              165                 170                    175

Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr Pro His Gly
              180                 185                 190

Met Trp Xaa Pro Pro Ser Leu
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<210> 16
<211> 608
<212> DNA
<213> Homo sapiens

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<220>
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<220>
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<220>
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<223> n equals a,t,g, or c

<220>
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<222> (594)
<223> n equals a,t,g, or c

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ttggccatgg ttttcatggg ggcaaaggga aacactgcag ctcagatgtc tcaggcactt     180
tgttttagta aaatcggagg tgaagatgga gatattcatc gaggttttca gtcacttctt     240
gttgcaatta acagaactga cactgaatat gtgcttagaa ctgccaacgg gctctttgga     300
gaaaagtctt atgatttcct cacaggtttt acagattcct gtggcaaatt ctaccaagca     360
acgataaaac agctagactt tgtgaatgat acagagaagt ccacaacacg tgtaaactcc     420
tgggttgctg ataaaactaa agcctggaaa attattcaaa caagcctgtc acatctggag     480
gagccaggaa tcgcctcttc ctcttgttac tgcaaagcct gcctttcaca gcccctactg     540
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Lys Lys Leu Gly Glu Asn Asn Ser Asn Asn Leu Phe Phe Ser Xaa Xaa
             20                  25                  30

Xaa Pro Met Ser Ile Ser Ser Ala Leu Ala Met Val Phe Met Gly Ala
         35                  40                  45

Lys Gly Asn Thr Ala Ala Gln Met Ser Gln Ala Leu Cys Phe Ser Lys
     50                  55                  60
```

```
Ile Gly Gly Glu Asp Gly Asp Ile His Arg Gly Phe Gln Ser Leu Leu
 65              70              75                          80

Val Ala Ile Asn Arg Thr Asp Thr Glu Tyr Val Leu Arg Thr Ala Asn
             85              90                  95

Gly Leu Phe Gly Glu Lys Ser Tyr Asp Phe Leu Thr Gly Phe Thr Asp
            100             105             110

Ser Cys Gly Lys Phe Tyr Gln Ala Thr Ile Lys Gln Leu Asp Phe Val
        115             120             125

Asn Asp Thr Glu Lys Ser Thr Thr Arg Val Asn Ser Trp Val Ala Asp
        130             135             140

Lys Thr Lys Ala Trp Lys Ile Ile Gln Thr Ser Leu Ser His Leu Glu
145             150             155                         160

Glu Pro Gly Ile Ala Ser Ser Ser Cys Tyr Cys Lys Ala Cys Leu Ser
            165             170             175

Gln Pro Leu Leu Val His Ser Ile Pro Lys Cys Asn Ser Pro Val Thr
            180             185             190

Pro His Gly Met Trp Xaa Pro Pro Ser Leu
        195             200
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